Exhibit 2

Exhibit 2 — Pending Claims in U.S. Patent Application Publication No. 2003/0228306

1. An anti-CCR5 antibody which comprises (i) two light chains, each light chain comprising the expression product of a plasmid designated pVK:HuPRO140-VK (ATCC Deposit Designation PTA-4097), and (ii) two heavy chains, each heavy chain comprising the expression product of either a plasmid designated pVg4:HuPRO140 HG2-VH (ATCC Deposit Designation PTA-4098) or a plasmid designated pVg4:HuPRO140 (mut B+D+I)-VH (ATCC Deposit Designation PTA-4099), or a fragment of such antibody, which binds to CCR5 on the surface of a human cell.

2. The anti-CCR5 antibody of claim 1, wherein the heavy chains are expressed by the plasmid designated pVg4:HuPRO140 HG2-VH (ATCC Deposit Designation PTA-4098).

3. (The anti-CCR5 antibody of claim 1, wherein the heavy chains are expressed by the plasmid designated pVg4:HuPRO140 (mut B+D+I)-VH (ATCC Deposit Designation PTA-4099).

4. An anti-CCR5 antibody comprising two light chains, each chain comprising consecutive amino acids, the amino acid sequence of which is set forth in SEQ ID NO:6, and two heavy chains, each heavy chain comprising consecutive amino acids, the amino acid sequence of which is set forth in SEQ ID NO:9.

5. An anti-CCR5 antibody comprising two light chains, each light chain comprising consecutive amino acids, the amino acid sequence of which is set forth in SEQ ID NO:6, and two heavy chains, each heavy chain comprising consecutive

amino acids, the amino acid sequence of which is set forth in SEQ ID NO:12.

6. An isolated nucleic acid encoding a polypeptide comprising consecutive amino acids, the amino acid sequence of which is set forth in SEQ ID NO:6.

7. The nucleic acid of claim 6, wherein the consecutive amino acids are the amino acids expressed by a plasmid designated pVK:HuPRO140-VK (ATCC Deposit Designation PTA-4097).

8. The nucleic acid of claim 6, wherein the nucleic acid comprises the sequence set forth in SEQ ID NO:5.

9. The nucleic acid of any one of claims 6, 7 or 8, wherein the nucleic acid is RNA, DNA or cDNA.

10. An isolated nucleic acid encoding a polypeptide comprising consecutive amino acids, the amino acid sequence of which is set forth in SEQ ID NO:9.

11. The nucleic acid of claim 10, wherein the consecutive amino acids are the amino acids expressed by a plasmid designated pVg4:HuPRO140 HG2-VH (ATCC Deposit Designation PTA-4098).

12. The nucleic acid of claim 10, wherein the nucleic acid comprises the sequence set forth in SEQ ID NO:8.

13. The nucleic acid of any one of claims 10, 11 or 12 wherein the nucleic acid is RNA, DNA or cDNA.

14. An isolated nucleic acid encoding a polypeptide comprising consecutive amino acids, the amino acid sequence of which is set forth in SEQ ID NO:12.

15. The nucleic acid of claim 14, wherein the consecutive amino acids are the amino acids expressed by a plasmid designated pVg4:HuPRO140 (mut B+D+I)-VH (ATCC Deposit Designation PTA-4099).

16. The nucleic acid of claim 14, wherein the nucleic acid comprises the sequence set forth in SEQ ID NO:11.

17. The nucleic acid of any one of claims 14, 15 and 16, wherein the nucleic acid is RNA, DNA or cDNA.

18. A composition comprising at least one of the anti-CCR5 antibody or a fragment thereof, of any one of claims 1-5 and a carrier.

19. A composition comprising the anti-CCR5 antibody or a fragment thereof, of any one of claims 1-5, having attached thereto a material selected from the group consisting of a radioisotope, a toxin, polyethylene glycol, a cytotoxic agent and a detectable label.

20. A method of inhibiting HIV-1 infection of a CD4+ cell which comprises contacting the CD4+ cell with an antibody which comprises (i) two light chains, each light chain comprising the expression product of a plasmid designated pVK:HuPRO140-VK (ATCC Deposit Designation PTA-4097), and (ii) two heavy chains, each heavy chain comprising the expression product of either a plasmid designated pVg4:HuPRO140 HG2-VH (ATCC Deposit Designation PTA-4098)

or a plasmid designated pVg4:HuPRO140 (mut B+D+I)-VH (ATCC Deposit Designation PTA-4099), or a fragment of such antibody which binds to CCR5 on the surface of the CD4+ cell, in an amount and under conditions such that fusion of HIV-1 or an HIV-1 infected cell to the CD4+ cell is inhibited, thereby inhibiting HIV-1 infection of the CD4+ cell.

21. The method of claim 20, wherein the CD4+ cell expresses CCR5.

22. A method of treating a subject afflicted with HIV-1 which comprises administering to the subject an effective HIV-1 treating dosage amount of an anti-CCR5 antibody comprising (i) two light chains, each light chain comprising the expression product of a plasmid designated pVK:HuPRO140-VK (ATCC Deposit Designation PTA-4097), and (ii) two heavy chains, each heavy chain comprising the expression product of either a plasmid designated pVg4:HuPRO140 HG2-VH (ATCC Deposit Designation PTA-4098) or a plasmid designated pVg4:HuPRO140 (mut B+D+I)-VH (ATCC Deposit Designation PTA-4099), or a fragment of such antibody, which binds to CCR5 on the surface of a human cell, under conditions effective to treat said HIV-1-afflicted subject.

23. A method of preventing a subject from contracting an HIV-1 infection which comprises administering to the subject an effective HIV-1 infection-preventing dosage amount of an anti-CCR5 antibody comprising (i) two light chains, each light chain comprising the expression product of a plasmid designated pVK:HuPRO140-VK (ATCC Deposit Designation PTA-4097), and (ii) two heavy chains, each

heavy chain comprising the expression product of either a plasmid designated pVg4:HuPRO140 HG2-VH (ATCC Deposit Designation PTA-4098) or a plasmid designated pVg4:HuPRO140 (mut B+D+I)-VH (ATCC Deposit Designation PTA-4099), or a fragment of such antibody, which binds to CCR5 on the surface of a human cell, under conditions effective to prevent said HIV-1 infection in said subject.

24. The method of claim 22 or 23, wherein the anti-CCR5 antibody is administered to the subject by a method selected from the group consisting of intravenous, intramuscular and subcutaneous means.

25. The method of claim 22 or 23, wherein the anti-CCR5 antibody is administered continuously to said subject.

26. The method of claim 22 or 23 wherein the anti-CCR5 antibody is administered at predetermined periodic intervals to said subject.

27. The method of claim 22 or 23, which further comprises labeling the anti-CCR5 antibody with a detectable marker.

28. The method of claim 27, wherein the detectable marker is a radioactive or a fluorescent marker.

29. The method of claim 22 or 23, wherein the dosage of said anti-CCR5 antibody ranges from about 0.1 to about 100,000 µg/kg body weight of said subject.

30. The method of claim 29, wherein the dosage of said anti-CCR5 antibody does not inhibit an endogenous chemokine activity on CCR5 in said subject.

31. An anti-CCR5 antibody conjugate comprising an anti-CCR5 antibody which comprises (i) two light chains, each light chain comprising the expression product of a plasmid designated pVK:HuPRO140-VK (ATCC Deposit Designation PTA-4097), and (ii) two heavy chains, each heavy chain comprising the expression product of either a plasmid designated pVg4:HuPRO140 HG2-VH (ATCC Deposit Designation PTA-4098) or a plasmid designated pVg4:HuPRO140 (mut B+D+I)-VH (ATCC Deposit Designation PTA-4099), or a fragment of such antibody which binds to CCR5 on the surface of a human cell, conjugated to at least one polymer.

32. The anti-CCR5 antibody conjugate of claim 31, wherein the polymer is selected from the group consisting of hydrophilic polyvinyl polymers, polyalkylene ethers, polyoxyalkylenes, polymethacrylates, carbomers, branched polysaccharides, unbranched polysaccharides, polymers of sugar alcohols, heparin and heparon.

33. The anti-CCR5 antibody conjugate of claim 32, wherein the polyalkylene ether is polyethylene glycol (PEG) or a derivative thereof.

34. The anti-CCR5 antibody conjugate of claim 33, wherein at least one PEG has an average molecular weight of at least 20 kD.

35. The anti-CCR5 antibody conjugate of claim 31, wherein the apparent size of the conjugate is at least about 500 kD.

36. The anti-CCR5 antibody conjugate of claim 31, wherein the conjugate has at least one of an increase in serum half-life, an increase in mean residence time in the circulation and a decrease in serum clearance rate, compared to a nonconjugated anti-CCR5 antibody or fragment thereof.

37. A method of inhibiting infection of a CCR5+ cell by HIV-1, which method comprises administering to a subject at risk of HIV-1 infection the conjugate of claim 31 in an amount and under conditions effective to inhibit infection of CCR5+ cells of said subject by HIV-1.

38. A method of treating an HIV-1 infection in a subject, which method comprises administering to an HIV-1-infected subject the conjugate of claim 31 in an amount and under conditions effective to treat the subject's HIV-1 infection.

39. The method of claim 38, wherein the amount of the conjugate is effective in reducing a viral load in the subject.

40. The method of claim 38, wherein the amount of the conjugate is effective in increasing a CD4+ cell count in the subject.

41. The method of claim 38, which further comprises administering to said subject at least one conventional anti-viral agent.

42. The method of claim 37 or 38, wherein the conjugate is administered to the subject by a method selected from the group consisting of intravenous, intramuscular and subcutaneous means.

43. The method of claim 37 or 38, wherein the conjugate is administered continuously to said subject.

44. The method of claim 37 or 38, wherein the conjugate is administered at predetermined periodic intervals to said subject.

45. The method of claim 37 or 38, which further comprises labeling the conjugate with a detectable marker.

46. The method of claim 45, wherein the detectable marker is a radioactive or a fluorescent marker.

47. A transformed host cell comprising at least two vectors, at least one vector comprising a nucleic acid sequence encoding heavy chains of an anti-CCR5 antibody, and at least one vector comprising a nucleic acid sequence encoding light chains of the anti-CCR5 antibody, wherein the anti-CCR5 antibody comprises two heavy chains having the amino acid sequence set forth in SEQ ID NO:9, and two light chains having the amino acid sequence set forth in SEQ ID NO:6.

48. A transformed host cell comprising at least two vectors, at least one vector comprising a nucleic acid sequence encoding heavy chains of an anti-CCR5 antibody, and at least one vector comprising a nucleic acid sequence encoding light chains of the anti-CCR5 antibody, wherein

the anti-CCR5 antibody comprises two heavy chains having the amino acid sequence set forth in SEQ ID NO:12, and two light chains having the amino acid sequence set forth in SEQ ID NO:6.

49. The transformed host cell of claim 47 or 48, wherein the cell is a mammalian cell.

50. The transformed host cell of claim 49 wherein the cell is a COS cell, a CHO cell or a myeloma cell.

51. The transformed host cell of claim 47 or 48, wherein the cell secretes the anti-CCR5 antibody.

52. The transformed host cell of claim 47, wherein the vector encoding heavy chains is designated pVg4:HuPRO140 HG2-VH (ATCC Deposit Designation PTA-4098).

53. The transformed host cell of claim 48, wherein the vector encoding heavy chains is designated pVg4:HuPRO140 (mut B+D+I)-VH (ATCC Deposit Designation PTA-4099).

54. The transformed host cell of claim 47 or 48, wherein the vector encoding light chains is designated pVK:HuPRO140-VK (ATCC Deposit Designation PTA-4097).

55. The transformed host cell of claim 47, wherein the vector encoding heavy chains is designated pVg4:HuPRO140 HG2-VH (ATCC Deposit Designation PTA- 4098) and the vector encoding light chains is designated pVK:HuPRO140-VK (ATCC Deposit Designation PTA-4097).

56. The transformed host cell of claim 48, wherein the vector encoding the heavy chains is designated pVg4:HuPRO140 (mut B+D+I)-VH (ATCC Deposit Designation PTA-4099) and the vector encoding light chains is designated pVK-HuPRO140-VK (ATCC Deposit Designation PTA-4097).

57. The transformed host cell of claim 47, wherein the nucleic acid sequence encoding heavy chains has the nucleic acid sequence set forth in SEQ. ID NO:8.

58. The transformed host cell of claim 48, wherein the nucleic acid sequence encoding heavy chains has the nucleic acid sequence set forth in SEQ ID NO:11.

59. The transformed host cell of claim 47 or 48 wherein the nucleic acid sequence encoding light chains has the nucleic acid sequence set forth in SEQ ID NO:5.

60. A vector comprising a nucleic acid sequence encoding a heavy chain of an anti-CCR5 antibody, wherein the heavy chain comprises the amino acid sequence set forth in SEQ ID NO:9.

61. The vector of claim 60, wherein the vector is designated pVg4:HuPRO140 HG2-VH (ATCC Deposit Designation No. PTA-4098).

62. A vector comprising a nucleic acid sequence encoding a heavy chain of an anti-CCR5 antibody, wherein the heavy chain comprises the amino acid sequence set forth in SEQ ID NO:12.

63. The vector of claim 62, wherein the vector is designated pVg4:HuPRO140 (mut B+D+I)-VH (ATCC Deposit Designation No. PTA-4099).

64. A vector comprising a nucleic acid sequence encoding a light chain of an anti-CCR5 antibody, wherein the light chain comprises the amino acid sequence set forth in SEQ ID NO:6.

65. The vector of claim 64, wherein the vector is designated pVK:HuPRO140-VK (ATCC Deposit Designation No. PTA-4097).

66. (Currently Amended) A process for producing an anti-CCR5 antibody which comprises culturing a host cell containing therein (i) a plasmid designated pVK:HuPRO140-VK (ATCC Deposit Designation PTA-4097), and (ii) either a plasmid designated pVg4:HuPRO140 HG2-VH (ATCC Deposit Designation PTA-4098) or a plasmid designated pVg4:HuPRO140 (mut B+D+I)-VH (ATCC Deposit Designation PTA-4099) under conditions permitting the production of an antibody comprising two light chains encoded by the plasmid designated pVg4:HuPRO140 HG2-VH (ATCC Deposit Designation PTA-4097)and two heavy chains encoded either by the plasmid designated pVg4:HuPRO140 HG2-VH (ATCC Deposit Designation PTA-4098) or by the plasmid designated pVg4:HuPRO 140 (mut B+D+I)-VH (ATCC Deposit Designation PTA-4099), so as to thereby produce an anti-CCR5 antibody.

67. A process for producing an anti-CCR5 antibody which comprises:

a) transforming a host cell with (i) a plasmid designated pVK:HuPRO140-VK (ATCC Deposit Designation PTA-4097), and

(ii) either a plasmid designated pVg4:HuPRO140 HG2-VH (ATCC Deposit Designation PTA-4098) or a plasmid designated pVg4:HuPRO140 (mut B+D+I)-VH (ATCC Deposit Designation PTA-4099); and

b) culturing the transformed host cell under conditions permitting production of an antibody comprising two light chains encoded by the plasmid designated pVK:HuPRO140-VK (ATCC Deposit Designation PTA-4097) and two heavy chains encoded either by the plasmid designated pVg4:HuPRO140 HG2-VH (ATCC Deposit Designation PTA-4098) or by the plasmid designated pVg4:HuPRO140 (mut B+D+I)-VH (ATCC Deposit Designation PTA-4099), so as to thereby produce an anti-CCR5 antibody.

68. The method of claim 66 or 67, which further comprises recovering the anti-CCR5 antibody so produced in isolated form.

69. The method of claim 66 or 67, wherein the host cell is a mammalian cell.

70. The method of claim 69, wherein the mammalian host cell is a COS cell, a CHO cell or a myeloma cell.

71. The method of claim 66 or 67, wherein the heavy chains of the anti-CCR5 antibody are encoded by the plasmid designated pVg4:HuPRO140 HG2-VH (ATCC Deposit Designation PTA-4098).

72. The method of claim 66 or 67, wherein the heavy chains of the anti-CCR5 antibody are encoded by the plasmid designated pVg4:HuPRO140 (mut B+D+I) (ATCC Deposit Designation PTA-4099).

73. A kit for use in a process of producing an anti-CCR5 antibody comprising:

a) a vector comprising a nucleic acid sequence encoding a light chain of an anti-CCR5 antibody, wherein the light chain comprises the amino acid sequence set forth in SEQ ID NO:6; and

b) a vector comprising a nucleic acid sequence encoding a heavy chain of an anti-CCR5 antibody, wherein the heavy chain comprises the amino acid sequence set forth in SEQ ID NO:9, or a vector comprising a nucleic acid sequence encoding a heavy chain of an anti-CCR5 antibody, wherein the heavy chain comprises the amino acid sequence set forth in SEQ ID NO:12.